

ERICA SYNTHS MIDI TO CLOCK BUILD MANUAL

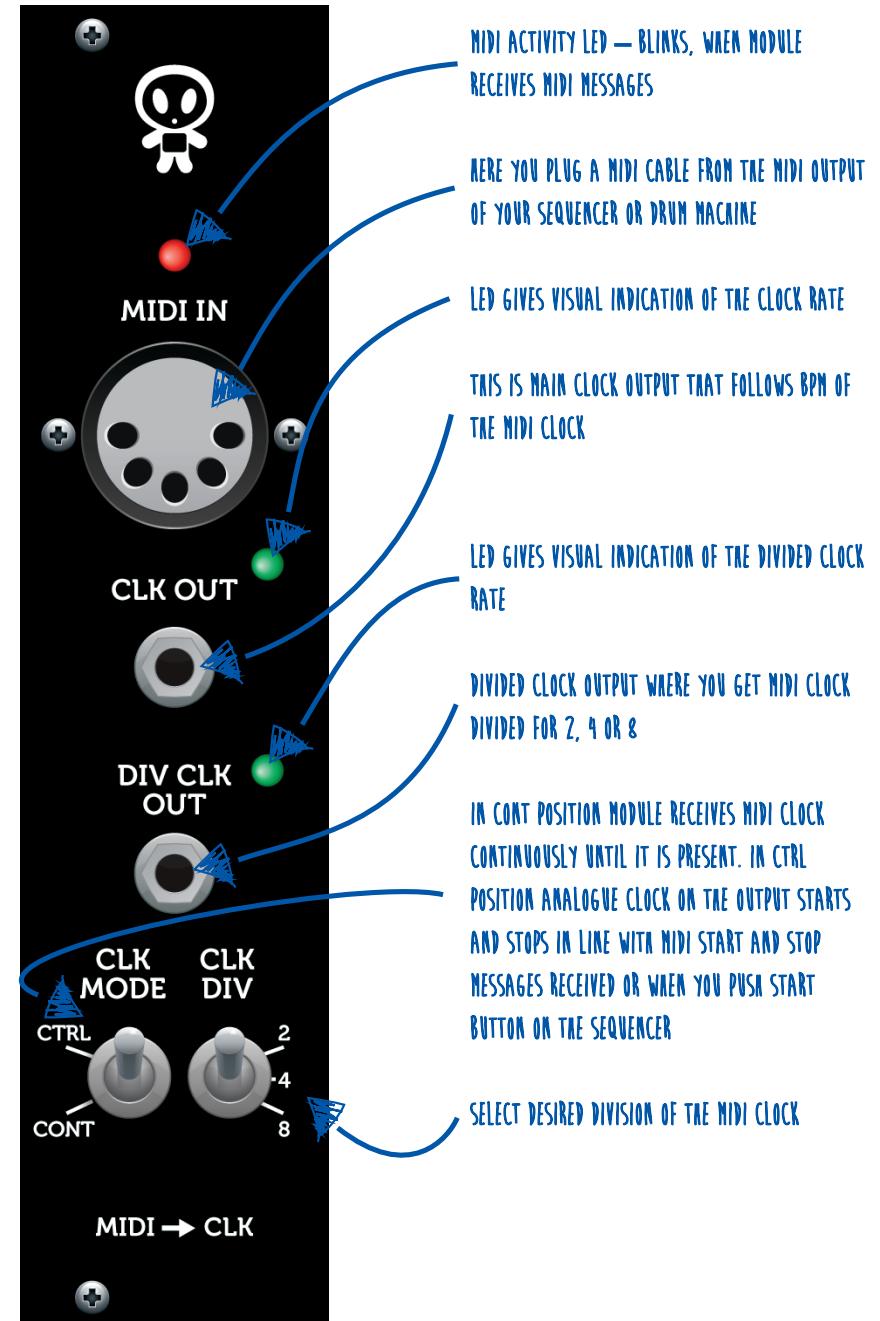
THANK YOU FOR ORDERING ERICA SYNTHS MIDI TO CLOCK MODULE KIT!

If you are true analogue enthusiast, you most probably have couple of analogue sequencers that need to be synced to your drum machines and other midi controllers, therefore Erica synths has developed a simple, easy to build and cost-effective MIDI TO CLOCK module with few interesting features. Besides direct clock output that follows BPM of the midi sequencer or drum machine, it has second clock output with selectable clock division by 2, 4 and 8. It has low part count and doesn't need calibration, PCB comes with pre-soldered and pre-programmed microcontroller. Power supply circuit is diode protected, so you will not kill the module in case you switch polarity of PSU cable.

TECHNICAL CHARACTERISTICS:

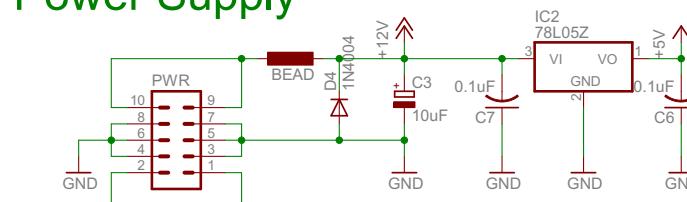
Panel width	6HP
Module depth	20mm
Power consumption	10mA@+12V, 0mA@-12V
Output signal	0-5V, 50% pulse

User manual by Girts Ozolins@Erica Synths. Design by Edgars Rasins. Copying, distribution or any commercial use in any way is prohibited and needs the written permission by Erica Synths. Specifications are subject to change without notice. In case of any questions, feel free to contact us through www.ericsynths.lv or via e-mail info@ericsynths.lv. Check out other Erica Synths DIY projects and assembled modules on www.ericsynths.lv

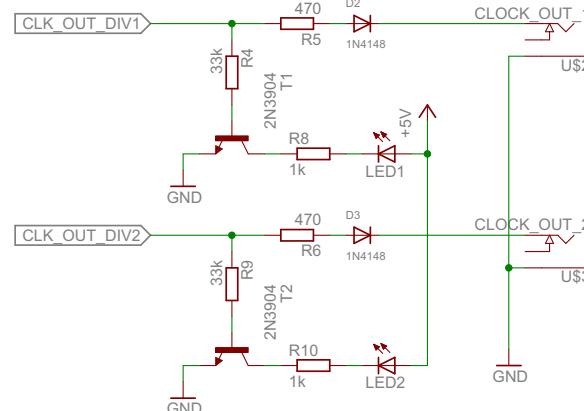


ERICA SYNTHS MIDI-CLOCK MODULE SCHEMATICS

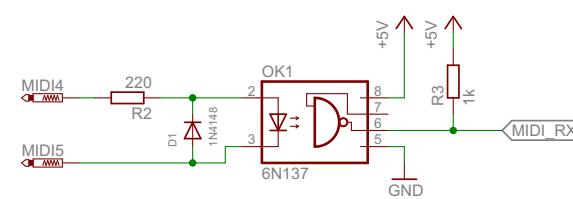
Power Supply



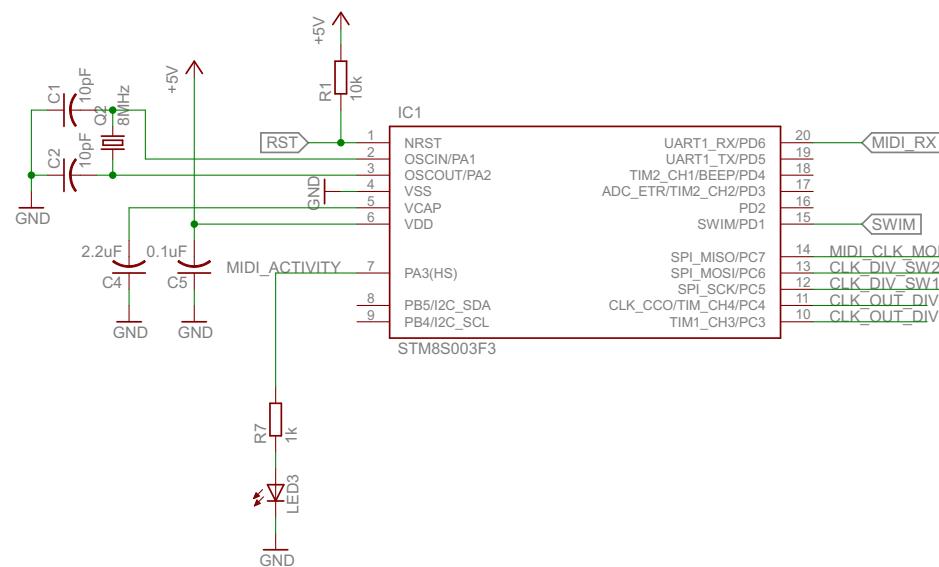
Clock Output



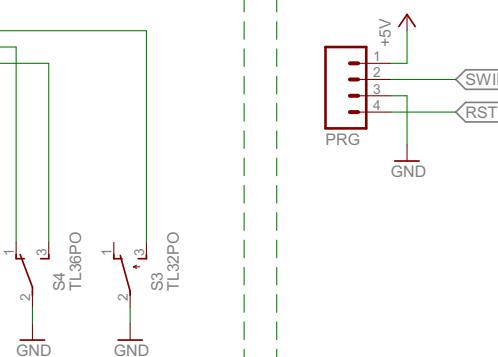
MIDI Input



MCU



Programming



BILL OF MATERIALS

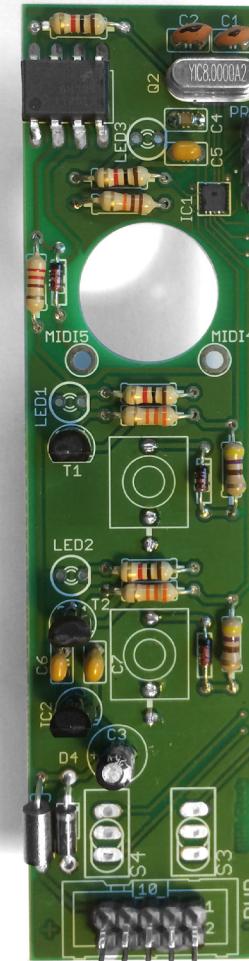
BEAD

C1	10pF	Q2	8 MHz
C2	10pF	R1	10k
C3	10uF	R2	220
C4 PRESOLDERED ON THE PCB	2.2uF	R3	1k
C5	0.1uF	R4	33k
C6	0.1uF	R5	470
C7	0.1uF	R6	470
D1	1N4148	R7	1k
D2	1N4148	R8	1k
D3	1N4148	R9	33k
D4	1N4004	R10	1k
IC1 PRESOLDERED ON THE PCB	STM8S003F3	S3	Two position switch
IC2	78L05	S4	Three position switch
LED1	Green 3mm	T1	2N3904
LED2	Green 3mm	T2	2N3904
LED3	Red 3mm	OUT1	3.5mm jack socket
OK1	6N137	OUT2	3.5mm jack socket

CONSTRUCTION

Follow instructions below, and you cannot go wrong with construction! From the first sight you may miss the pre-soldered microcontroller, but it's really there and it's really micro.

Solder all resistors, diodes, transistors, IC socket, ferrite bead and PSU jack.



CONSTRUCTION

Use screws supplied to fix the midi jack to the front panel.



Turn the PCB around. Insert jacks and switches in relevant places on the PCB (do not solder them yet) and put the panel on. If you are happy with their positioning, solder those to the PCB. Insert LEDs in relevant places on the PCB (do not solder them yet) and put the panel on. Lead LEDs through the relevant holes on the front panel, and when you are happy with their positioning, solder LED legs.



CONSTRUCTION

Put the panel on and use jack and switch nuts to fix it.



Solder midi jack wires to the relevant places on the PCB
Insert the optoisolator IC.



CONGRATULATIONS, YOU HAVE COMPLETED
ERICA SYNTHS MIDI TO CLOCK MODULE!